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EXCAVATIONS IN EASTERN CRETE  
SPHOUNGARAS

BY  
EDITH H. HALL

PHILADELPHIA  
PUBLISHED BY THE UNIVERSITY MUSEUM  
1912









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## EXCAVATIONS IN EASTERN CRETE SPHOUNGARAS

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### INTRODUCTION.

Between the town of Gournia (Γουρνιά) and the sea-coast to the north, stretches a valley which is flanked on the east by a limestone ridge called Elatso Mouri (Ἐλάτσο Μουρί). At a distance of some 200 metres from the town the west face of this ridge is broken by a line of cliffs (Pl. X) below which the hill slopes sharply away to the valley. It was along the upper margin of this slope, which goes by the name of Sphoungaras (Σφουγγαράς), that Mrs. C. H. Hawes in 1904<sup>1</sup> found three Early Minoan rock-shelter burials. The general appearance of this slope—a steep and rocky slope facing southwest—corresponds so closely to that of the hills on Pseira and Mochlos where cemeteries were found, that since his excavations on these islands, Mr. R. B. Seager has regarded this hillside as a probable site not only for occasional Early Minoan interments like those found by Mrs. Hawes but also for the extensive burial-place of the town of Gournia.

Accordingly the Sphoungaras slope was selected for excavation, and on March 31, 1910, eight men were set to digging trial trenches near the center of the hill. Within an hour the small gold ring of Fig. 24 came to light together with fragments of Early Minoan pottery and a few bones. The same day a burial in an inverted pithos was discovered and near it many fragments of cups of a type associated both with Middle Minoan III and with Late Minoan I remains. It being thus apparent that we had to do with an extensive cemetery which was in use both in the Early Minoan

<sup>1</sup> See *Transactions of the Department of Archaeology of the University of Pennsylvania*, Vol. I, Part III (1905), pp. 179-182 and *Gournia*, p. 56.

period and at a subsequent epoch in the bronze-age, it was decided to excavate the hill systematically with a larger force of workmen, and the next day, after trial trenches at the foot of the slope had determined the point where interments began, forty men were started in line at the foot of the hillside. The soil was found to be everywhere full of fragments of pithoi and larnakes and, here and there, where sufficient depth of earth remained, groups of unbroken pithoi came to light. Within the three weeks that the excavation lasted, 150 of these burial jars were found, the majority of which proved to be of Late Minoan I date. Since no burials of this period had been hitherto found, the Sphoungaras slope offered valuable evidence as to the method of interment employed in this epoch. Another result of the excavation was the recovery of Minoan skulls and bones which were so well preserved within their protecting walls of clay that twenty skulls could be saved, a few of which were in excellent condition. Some report of these skulls has already been made by Mr. C. H. Hawes in *Report Brit. Ass. Trans. Sections, Sheffield, 1910*; *Report on Cretan Anthropometry*, p. 3.

The other results of the excavation were given over to me for publication, although the work was under Mr. Seager's direction; to his experience and information I have been constantly indebted in writing this report. The objects found went for the most part to the Candia Museum; a few specimens were granted to the University of Pennsylvania Museum in the name of which the work was carried on and from which we received a grant of money. We were fortunate in securing the services of the English architect, Mr. F. G. Newton, to draw a plan of the site.



## THE SPHOUNGARAS SLOPE AND ITS DEPOSITS

The Sphoungaras slope, like many other steep hillsides of Crete, had been stripped of most of its soil. In this process of denudation the higher parts of the hill had become quite bare except here and there where the slipping soil had found lodgment against a boulder, or just below the cliffs where the overhanging rock protected the earth below. Near the foot of the hill the deposit of earth was sufficient to cover the tall burial jars, although some of these lay only a few inches below the surface where, in view of the centuries during which this field had undergone cultivation, it seemed incredible that a plough had not reached them. The upper part of the hill had suffered not only from the denudation of its soil, but also from the falling of boulders from the cliffs, which had seemingly broken up whatever pottery had not already been washed down the hill. The number of potsherds strewn about the lower slope bore witness to the extent of the havoc. Thus, when in the course of the excavations the upper part of the slope was reached, the deposit of earth together with the ancient remains came abruptly to an end and we saw that the area where the soil was deep enough to make excavations possible was confined to a comparatively narrow belt. There were however these exceptions: just outside the cave which had been partially cleared by Mrs. Hawes, was found a considerable Early Minoan deposit (B on plan, Pl. XV); at the top of the hill between the cliff and some boulders (C on plan) were found three pithoi together with fragments of others and as many as 8 skulls; lastly, some metres to the south—outside the limits of the plan—were found broken remnants of both Early and Late Minoan burials, which were evidently in their original position but had been crushed by fallen rocks.

The interments could be divided into two main classes, (1) burials in the earth without pithoi, the general area of which is marked on the plan by hatched lines, and (2) burials in

inverted pithoi each indicated on the plan by a circle. The pottery associated with the former was of Early Minoan II and Early Minoan III date, with an admixture of Middle Minoan I fabrics. The jars used in the latter class of burials were mostly of the Middle Minoan III and Late Minoan I periods although a few specimens, dating from the Middle Minoan I period, occurred. We have also to mention a small neolithic deposit which underlay the Early Minoan remains at the point marked

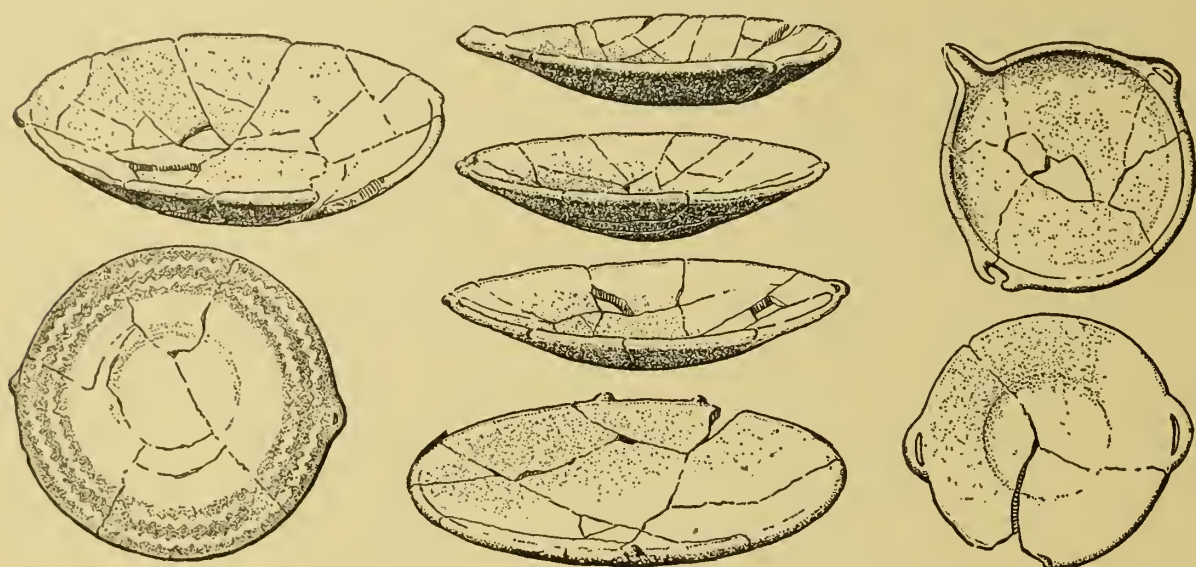


FIG. 20.—Early Minoan II Plates. Scale 1:7.

D on the plan. The walls which were found were practically negligible; only two or three small stretches came to light and these seemed to be the remains of short retaining walls rather than those of graves or tombs. The deposits will now be described in chronological order.

#### THE NEOLITHIC DEPOSIT

Ten metres south of the rock-shelter, under the Early Minoan deposit at the point marked D, there came to light a layer of black earth which was found to contain a neolithic deposit, the first which has as yet appeared on the Isthmus of Hierapetra. The position of these remains so close to a cave, recalls the megalithic house at Magasá;<sup>1</sup> but since in this case

<sup>1</sup> See R. M. Dawkins, *B. S. A.*, XI (1904-1905), p. 263.



no house-walls were found, we may suppose that a structure of some perishable material, perhaps a wattled mud hut, served as an extension to the narrow space available within the cave itself. No neolithic deposit was found in the cave or immediately outside it but this was to be expected inasmuch as it had been used as a burial place by the people of the Early Minoan period who would have probably cleared it out to make room for their dead.

The objects found in this deposit were chiefly sherds of coarse clay shading from brown to black and containing particles of white sand. Their outer surface was generally of a brownish

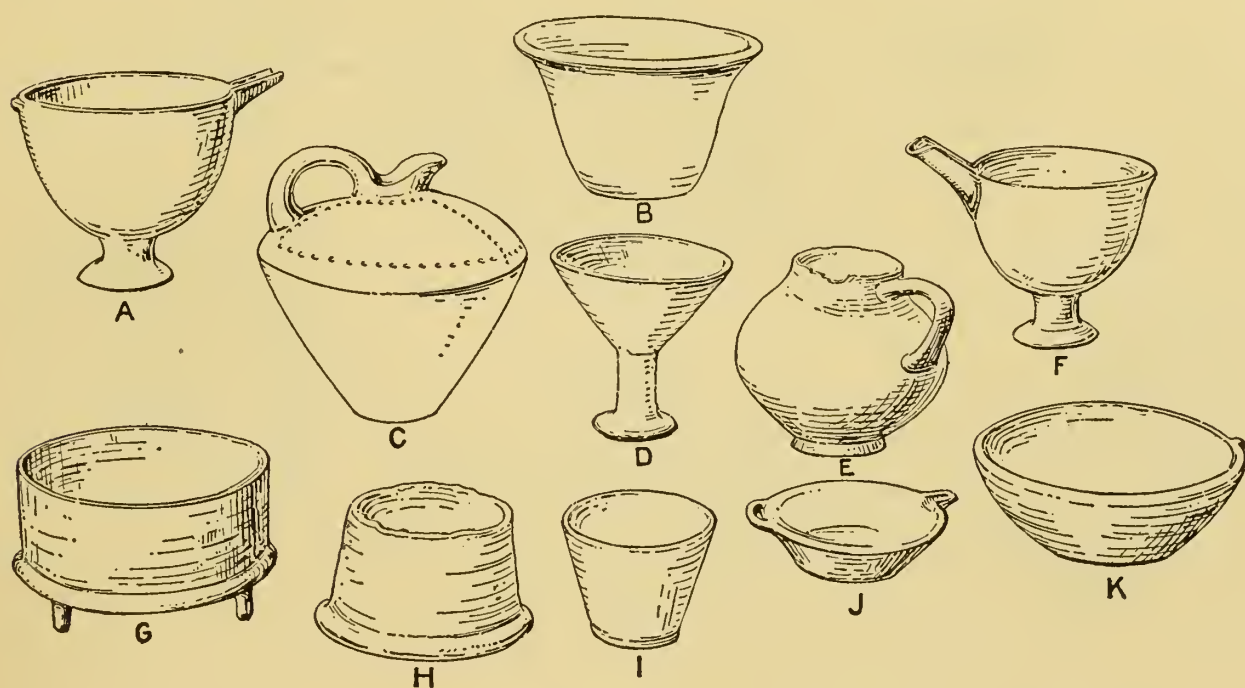


FIG. 21.—New Types of Early Minoan II Mottled Ware. Scale 1:4.

red color and rudely finished. Mr. Duncan Mackenzie, who kindly examined these sherds for me, pronounced them to be a late neolithic fabric dating from the very end of the stone-age. Among these fragments was a wish bone handle like that found in the megalithic house at Magasá.<sup>1</sup>

There also occurred a worked bone like those from Magasá.<sup>2</sup> These analogies are striking, but the pottery seems to show that

<sup>1</sup> See R. M. Dawkins, *loc. cit.*, Fig. 3, c, and Pl. VIII, 27-29.

<sup>2</sup> *Ibid.*, Pl. VIII, 11-18.



our neolithic farmstead is later than the better built one at Magasá.

#### EARLY MINOAN DEPOSIT A

The first Early Minoan deposit which we have to describe (marked A on the plan) was on that part of the hill where digging began, and extending as it did over so large an area and yielding objects so similar to those found in the Early Minoan tombs at Mochlos, there was every indication that the cemetery was to date mainly from the Early Minoan age. The deposit was from one to three feet deep and overlay hardpan or limestone so acted on by the acids of the soil as to render it soft. There was only one piece of wall found within this area. Just how the dead had been interred we could not determine; the bones which here came to light were so fragmentary that it was impossible to say whether they belonged to primary or to secondary burials. They lay loose in the earth beside the vases and ornaments that had been buried with the dead and were badly rotted. There were no traces of cremation. It is probable, in view of the evidence from other Cretan sites, that these were primary burials in "cists rudely built of small stones" like those noted by Mr. Hogarth in caves at Zakro<sup>1</sup> and by Mr. Seager on Pseira, but it is also possible that larnakes were sometimes used in this period, for among the fragments of pottery found were many heavy sherds of coarse red clay which came from straight sided vessels like larnakes.

By far the most common ware in this Early Minoan deposit was the red and black mottled pottery usually known as Vasiliki (Βασιλική) ware after the place where it was first found.<sup>2</sup> The mottled colors were still in some instances fairly brilliant although in general the soil of the Sphoungaras hill had had a disastrous effect upon the painted surface. A feature peculiar to the specimens from the Sphoungaras hill was that the inside of the vase was frequently a uniform black. Often the black

<sup>1</sup> *B. S. A.*, VII, p. 143.

<sup>2</sup> See Seager, *Transactions*, I, Part III, pp. 207-220.

extended quite evenly over the top of the outside as if these vases, like the black-topped ware from Egypt, had been placed upside down in a bed of coals.

The commonest types were egg-cups of which 8 appeared and plates of which 11 were found and 8 could be restored. No illustrations of the egg-cups are given since they correspond so closely to those from Vasiliki;<sup>1</sup> specimens of the plates are shown in Fig. 20. This shape has been found at Zakro<sup>2</sup> and at

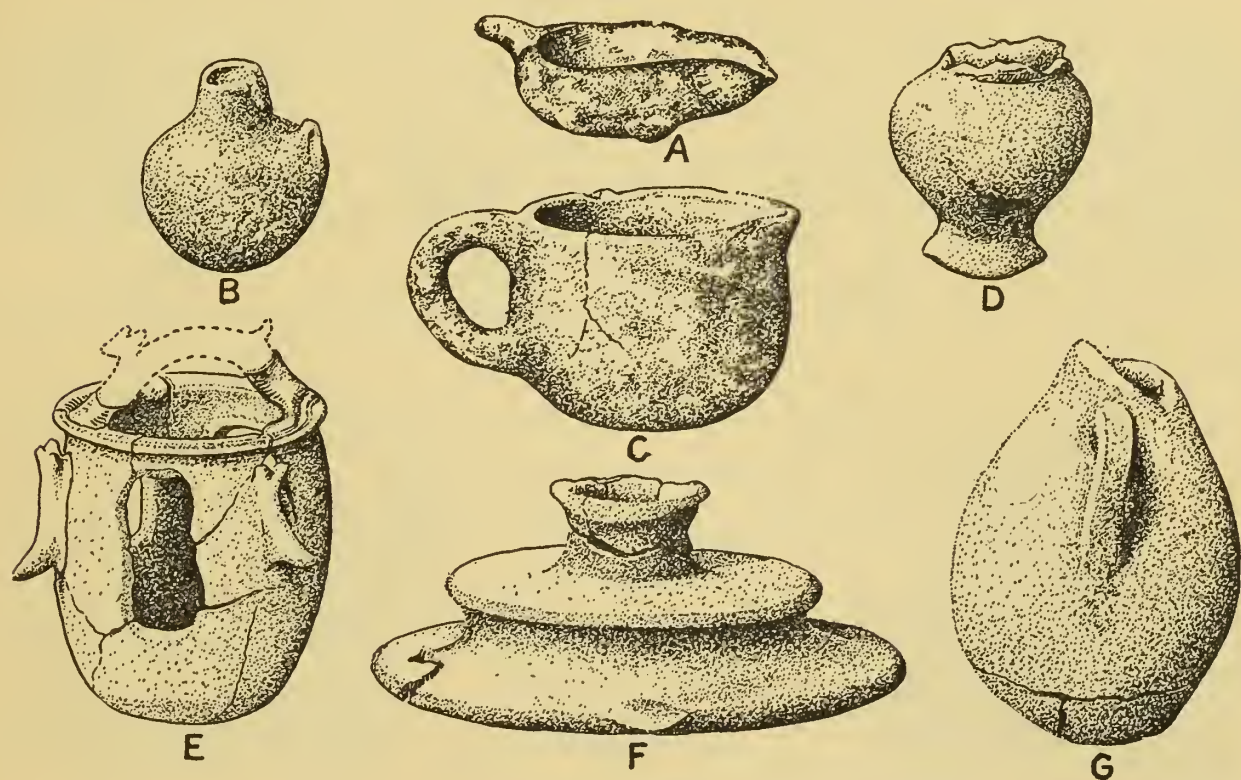


FIG. 22.—Early Minoan II Pottery. Scale 1:3.

Vasiliki,<sup>3</sup> but only a few specimens have been hitherto recovered. One plate in Fig. 20 has waved lines painted in white above the mottled surface—a method noted before<sup>4</sup> and practiced, evidently, at the very end of the Early Minoan II period.

In addition to egg-cups and plates this deposit yielded other familiar types of mottled ware such as jugs and bridge-spouted bowls and also several new shapes, which are shown in Fig. 21.

<sup>1</sup> *B. S. A.*, VII, p. 143.

<sup>2</sup> *Loc. cit.*, Pl. XXXIV, 1.

<sup>3</sup> *Transactions*, II, 2, p. 116.

<sup>4</sup> *Transactions*, I, 3, p. 116.



The jug is embellished by rows of punctuated dots arranged along the shoulder and from the shoulder to the neck.

Together with the mottled red and black Vasiliki ware there also occurred in this deposit specimens of other Early Minoan II fabrics, shown in Fig. 22. These were:

1. Small jug of coarse black clay with punctuated dots around neck (Fig. 22, *b*).
2. Tiny jug of same clay.
3. Rimmed jar with foot, of similar clay (Fig. 22, *d*).
4. Fragments of a side-spouted cup with a hatched design in dark paint on the buff ground of the clay. A cup similar to this was found at Koumása.
5. Fragments of a round bodied jug of coarse buff clay (Fig. 22, *g*).
6. Mug of coarse red clay with heavy handle and spout (Fig. 22, *c*).
7. Clay lamp similar to one found at Vasiliki (Fig. 22, *a*).<sup>1</sup>
8. "Fruit-stand" or cover (Fig. 22, *f*).<sup>2</sup>
9. A curious vase with perforated sides, and handles in the form of animals.

There were also found in this deposit the following specimens of Early Minoan III ware:

1. Round-bodied cup with design of spirals connected by groups of lines (Fig. 23, *e*).<sup>3</sup>
2. Straight sided cup with design of festoons and dots (Fig. 23, *b*).
3. Round-bodied cup with similar design.
4. Cup, elliptical in section (Fig. 23, *a*). The lunettes and dots in the horizontal band of decoration on this cup did not come out even, apparently, so the potter cut one of the lunettes in two with three diagonal lines.

<sup>1</sup> *Transactions*, II, 2, p. 122, Fig. 5, *a*.

<sup>2</sup> Several specimens of this class of vases have been found by Mr. Seager at Mochlos and by Mr. Xanthoudides at Koumasa; the former thinks that they were not covers because no vases which they might fit have been found with them; the latter calls them covers because incised decoration has been found on the outside of some specimens.

<sup>3</sup> Cf. *Transactions*, Vol. I, Part III, p. 200, and Pl. XXVII.

5. Similar cup also elliptical in section. Here the potter introduced a hatched triangle to make his design come out even (Fig. 23, *c*).

6. Beaked jug, covered almost entirely with a black paint on which are horizontal bands of white and between them dotted triangles and festoons (Fig. 23, *f*).

7. Similar jug with diagonal lines of white and hatched triangles on a dark paint ground (Fig. 23, *d*).



FIG. 23.—Early Minoan III Cups and Jugs. Scale 1:3.

The stone objects which were found in this deposit are as follows:

1. Breccia bowl (4 cm. high; 6 cm. diam.), found with fragments of a larnax and a few scanty remnants of bones on the very outskirts of this deposit at a point marked E on the plan.

2. Green steatite bowl with handle (2 cm. high; 5.1 cm. diam.), found in a mixed deposit containing both Middle Minoan I and Early Minoan III pottery.



3. Small translucent green soapstone lid with four perforations (.046 m. diam.).

4. Stone arrow-head.

5. Heavy stone rings evidently used as weights.

The soapstone lid and the arrow-head lay close together beside fragments of Early Minoan II plates, which fixes their date as Early Minoan II—a date already practically certain since Mr. Seager's discovery of stone vases in Early Minoan II tombs on Mochlos.

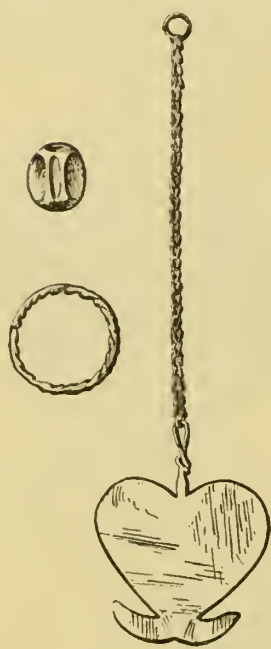


FIG. 24. — Gold Objects from Early Minoan Deposit A. Scale 2:3.

In these Mochlos tombs such delicate little stone vases were associated with beautiful gold-work which rivals in technical perfection the finest jewelry of fifth century goldsmiths. The Sphoungaras cemetery did not yield such abundance of gold objects as was found in the Mochlos tombs, but two pendant chains, one of which is shown in Fig. 24, surpass in delicacy the finest specimens from the Mochlos gold treasure. The chains are double linked and exquisitely wrought; the heart-shaped ornaments at the end are of thin gold-leaf. These pendants lay quite close to sherds of Early Minoan II red and black mottled ware. The other gold objects from this deposit are also shown in Fig. 24; they are the gold ring already referred to and a gold bead.

Other objects of importance from this area were the following:

1. Ivory seal (Fig. 25, *a*) roughly hemispherical and crudely modelled in the form of a bird's head. The hole for suspension passes from the top through the beak. The sealing surface shows, in intaglio, the figure of a man standing between a four-legged animal and a snake (?). Similarly shaped seals have been found at Koumasa<sup>1</sup> and at Agia Triada.<sup>2</sup> The design on

<sup>1</sup> Unpublished.

<sup>2</sup> Unpublished. Here the seal is in the shape of a horse's head.

the sealing surface must be regarded as the prototype of those representations of goddesses standing between animals or birds heraldically placed, which are so characteristic of Cretan culture.

2. Ivory seal with curved top and geometric design on the sealing surface (Fig. 25, *b*).

This seal is similar to one from a house on Mochlos.<sup>1</sup> It may be compared, also, to two unpublished seals from Agia Triada (Nos. 463 and 438 in the Candia Museum Catalog), and to a seal published in *Mem. R. Ist. Lomb.*, 1904, Vol. XXI, *Tav. X*.

3. Small ivory spindle whorl.

4. Ivory idol (head missing) like those from Koumása and one from Agia Triada published in *Mem. R. Ist. Lomb.*, 1904, Vol. XXI, *Tav. XI*, lower row, second from the right end.

5. Bronze tweezers or snuffers (Fig. 26).

6. Triton shells.



FIG. 25.—Early Minoan II Ivory Seals. Scale 2:3.



FIG. 26.—Bronze Tweezers from Early Minoan Deposit A. Scale 2:3.

### EARLY MINOAN DEPOSIT B

The other Early Minoan deposit on the Sphoungaras hill began at a point one metre from the opening of the rock-shelter and extended west along the cliff and then south over the small neolithic stratum described on p. 46. A part of this area had been already explored by Mrs. Hawes and had yielded a number of vases.<sup>4</sup>

<sup>1</sup> *A. J. A.*, XIII (1909), p. 280.

<sup>2</sup> See *Transactions*, Vol. I, Part III, p. 179 f., and *Gournia*, p. 56. The vases here published must now, in the light of subsequent excavations, be regarded as Early Minoan II, not as Early Minoan I.



The pottery from this deposit is shown in Fig. 27 and is as follows:

1. Bird-shaped vase (Fig. 27, *g*).
2. Three-legged lamp (Fig. 27, *f*).
3. Later Middle Minoan III or Late Minoan I lamp, which must have worked down from a higher level (Fig. 27, *h*).
4. Small "flower-pot" of coarse black clay (Fig. 27, *e*).



FIG. 27.—Early Minoan II Pottery from Deposit B. Scale 3:4.

5. Four clay polishers probably used for finishing the surface of vases (Fig. 27, *a, b, c, d*).

6. Large red and black mottled *schnabelkanne*, 36 cm. high.

7. Three side-spouted "flower-pots" found with the *schnabelkanne* just outside the mouth of the cave.

Two small green soapstone vases were also found in this deposit, a bowl 2.5 cm. high and a little dish barely 2 cm. high with three handles and a spout. A bowl of black steatite of a type associated with a later period of stone-cutting was also



found in this deposit, having in all probability worked its way down from a higher level.

All along the margins of these Early Minoan deposits and indeed sometimes quite within their limits occurred traces of Middle Minoan III and Late Minoan I burials in inverted jars.



FIG. 28.—Middle Minoan I Vases. Scale 1:5.

Where such later interments were numerous the earlier deposits ceased to appear. It seems accordingly possible that the entire slope had been used as a burial place in Early Minoan times and that many of these earlier graves had been removed by later inhabitants to make room for their own dead. It is also possible that the earlier graves had been plundered by later generations and that fine goldwork like the pendant of Fig. 24 had thus disappeared. And if we are to suppose a rich and extensive cemetery on the hillside of Sphoungaras we must also suppose an extensive settlement in the town of Gournia. This is indeed the most important conclusion to be drawn from these early burials, viz. that the town of Gournia was a large and prosperous community in the Early Minoan II period.

## A GROUP OF MIDDLE MINOAN I VASES

Before describing the later pithos-burials, mention should be made of a group of Middle Minoan I vases which could not be assigned either to these later burials in jars or to the older Early Minoan interments. They lay for the most part along the northern confines of the early deposit A in an area marked F on plan, where the two types of burial—the earlier in graves and the later in jars—were mixed. Some specimens in the following list lay close to Early Minoan vases; other were adjacent to pithos-burials. Now we shall soon see that a few of the earliest burials in jars are to be assigned to the Middle Minoan I period. It is thus possible that these Middle Minoan I cups and jugs were buried along with the pithoi containing the dead. But it is equally possible that these vases had been interred in graves, for pottery of the Middle Minoan I period was found in cist graves on Pseira, adjacent to burials in jars.

These Middle Minoan I vases are as follows:

1. Two-handled side-spouted cup of hand-polished buff clay (Fig. 28, *d*). The similarity of this ware to the buff hand-polished ware of the Early Minoan II period has been pointed out by Mr. Seager.<sup>1</sup> Only by the shape may these undecorated wares of the two periods be distinguished. This vase was found close to the red and black jug of Fig. 21 and also to the Middle Minoan I jar of Fig. 31.

2. Squat vase with two small side-handles and large side-spout (Fig. 28, *f*). Traces of circles of red paint are visible on the shoulder, and lines of the same on the neck. For this reason the vase is assigned to the Middle Minoan I period; on other grounds it might well be called Early Minoan II. This vase was from a mixed deposit containing both red and black egg-cups and Middle Minoan I cups and jugs.

3. Painted bowl with central ornament in the form of a flower. (Fig. 29.) The body-paint varies from brown to black.

<sup>1</sup> See *Explorations in the Island of Mochlos*, p. 8.



On this background are painted both inside and out red and white festoons interspersed with white quirks. The petals of the flower are painted white with red dividing lines. This vase was found together with red and black egg-cups as well as fragments of other Middle Minoan I cups. Comparable cups with modelled ornaments inside were found at Palaikastro; in *B. S. A.*, IX, 1902-1903, p. 302, Fig. I, 5*a*, a specimen is shown where the central ornament is a dog. In other cups the central ornaments were birds, but no flowers were noted.



FIG. 29.—Middle Minoan I Bowl. Scale 2:3.

4. Tall straight sided cup, in shape like Middle Minoan II and Late Minoan I cups. Its painted surface varies from brown to black, a possible reminiscence of the mottled red and black Early Minoan II style (Fig. 28, *g*). Similar cups were found at Vasiliki in Middle Minoan I context.

5. Three round-bodied cups of buff clay with lines of dark paint on rim and handle (Fig. 28, *a*, *b* and *e*).

6. More advanced shape, entirely covered with black paint (Fig. 28, *c*).

7. Rim-handled bowl of buff clay (Fig. 28, *h*).

In addition to these cups and bowls, a quantity of Middle Minoan I jugs came to light (Figs. 30 and 31). They came from a comparatively small area adjacent to the area of pithos-burials. In the one case where stratification was observable, they lay above the Early Minoan III cups of Fig. 23. They need

no special comment except perhaps *b* and *g*, which are miniature examples of a type of painted jug very typical of this period. Both these painted patterns, the "plume" decoration and the circular patches of dark paint connected by slanting lines were thought by Mrs. Hawes to be characteristic of Middle Minoan

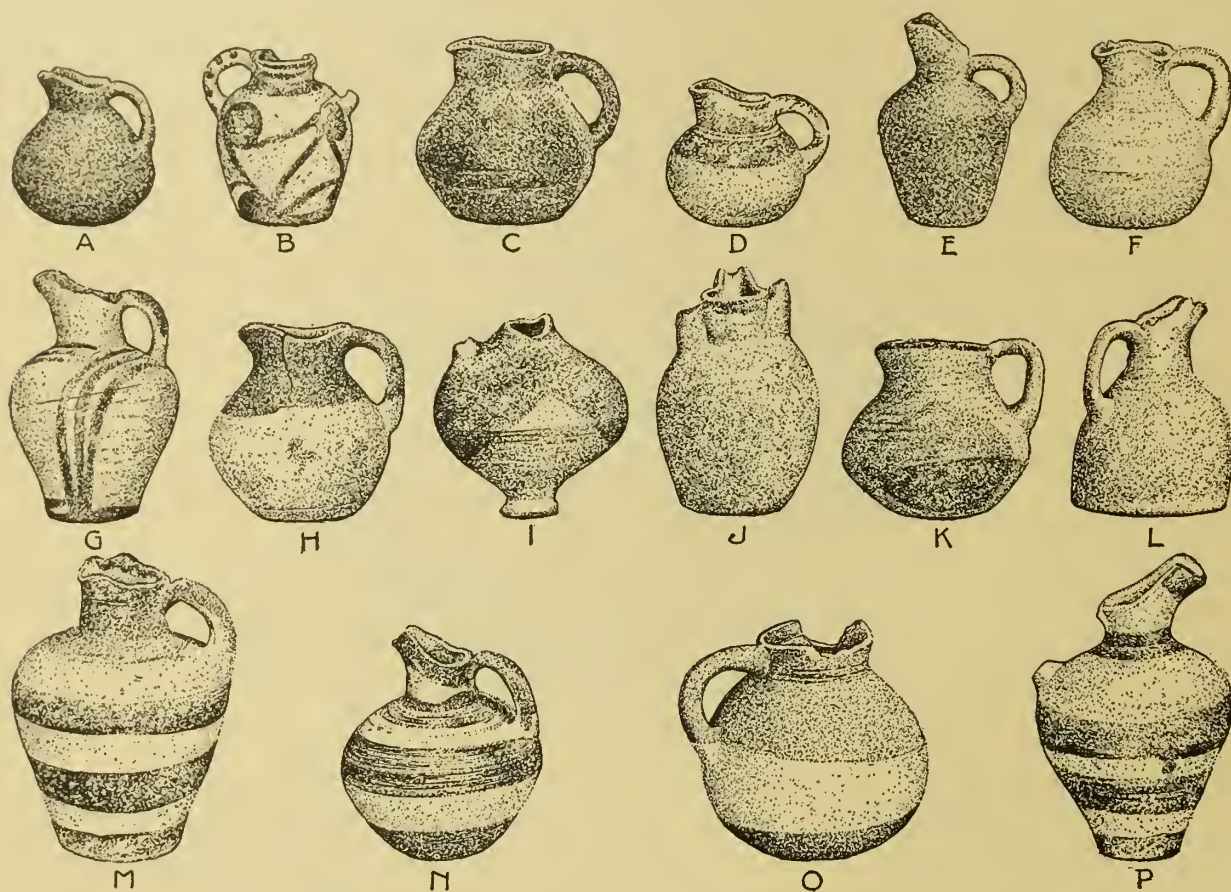


FIG. 30.—Middle Minoan I Jugs. Scale 1:4.

III ceramic art.<sup>1</sup> Subsequent excavations at Vasiliki revealed some specimens with this decoration in Middle Minoan I deposits<sup>2</sup> and later discoveries on Pseira<sup>3</sup> definitely established the fact that vases with these two types of decoration belonged not to the Middle Minoan III but to the Middle Minoan I period.

#### THE PITHOS-BURIALS

A glance at the plan will show over how wide an area the pithos-burials extended. The circles indicate, however, only

<sup>1</sup> See *Gournia*, pp. 38 and 60, and Pls. D and VI, 29 and 42.

<sup>2</sup> See *Transactions*, Vol. II, Part II, p. 128.

<sup>3</sup> See *Pseira*, *Anthropological Publications of the Univ. of Penna.*, III, No. 1, p. 19.



those pithoi which were either whole or could be restored. Inasmuch as the entire hill was strewn with fragments of heavy jars, we must conclude that the original number was far greater. Some thirty of the hundred and fifty found, those which had painted decoration and the unpainted ones which were in good condition, were taken to the excavation house; the rest were buried again in the trial trenches.

Without exception the burial-jars were placed upside down (Plates XI and XII). They were inserted neither at regular intervals nor at a uniform depth. They must have been entirely covered by earth, for sometimes a large flat stone had been laid above them as if for additional protection and such stones would never have stayed in place had they not been held in position by earth. The soil between and below the jars was generally filled with

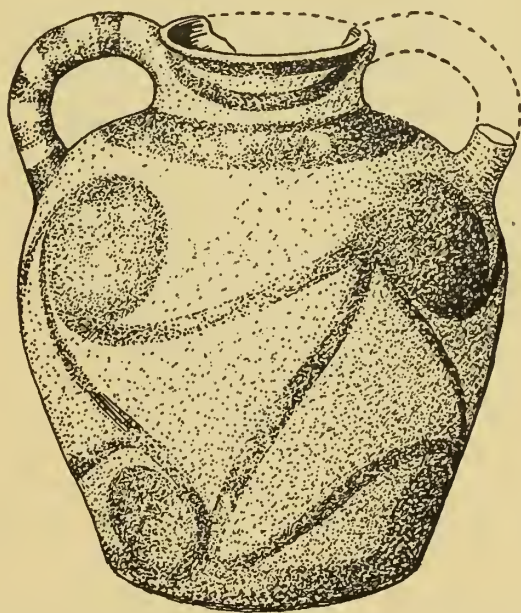


FIG. 31.—Middle Minoan I Jar. Scale 2:3.

beach pebbles and where the pithoi stood close together, larger stones appeared, which had served as wedges to keep them in place. Sometimes covers were found underneath the jars but this was not the rule, it evidently being held preferable that the mouth of the jar should be left open. A cleaner method of burial could scarcely be devised; the body came into contact only with the clay of the inclosing jar or with the beach pebbles below it and

as the centuries passed the pithos, if it remained unbroken, kept out the infiltrating earth much more effectually than a grave lined with slabs would have done. In fact, inside the unbroken pithoi only a handful of earth appeared—doubtless the dust to which the body had crumbled.

In one instance (see G on plan, Pl. XV) a pithos was found within another pithos.

There should also be recorded the fact that among the pithoi was found a larnax (H on plan). It measured  $87 \times 44$  centimetres and was 54 centimetres high. It was without ornament, but its date must be the same as that of the Middle Minoan III or Later Minoan I pithoi in the midst of which it was interred.

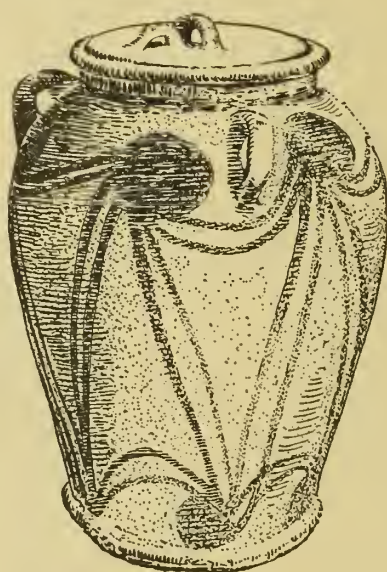


FIG. 32.—Middle Minoan I Burial-jar. Scale 1:8.

The size and shape of the pithoi differed widely. Small jars were used for children, larger ones for adults. In some cases the jars were of familiar domestic types; in fact it looked as if worn jars had been taken from the household stock and used for burials, for in several cases the rims were broken and the missing pieces were not to be found in the vicinity. Often, however, they were of a type which seems to have been made particularly for burials. Such jars as those in Fig. 35 with their small bases and awkwardly bulging sides would have been both unstable and ugly as articles



of household furniture, whereas they were admirably adapted for burials.

It was at first thought that these jar-interments were perhaps secondary burials, that the bones had been inserted in the jars after they had been cleared of flesh. But this was not the case. Several jars had become cracked around their bases (i. e. their tops in the position in which they were found) and thus by lifting off the upper part we could note the position of the bones before they had been disturbed by the removal of the jar. In several instances the bones of all five fingers were ob-



FIG. 33.—Middle Minoan III Burial-jar. Scale 1:7.

served exactly in their correct order, and again the rib-bones appeared in their proper position. In two cases the leg-bones were still upright as they had been originally when the body was inserted with the legs doubled up and the knees brought close to the chin (Pl. XIV). To prove beyond doubt that primary burials were possible in these jars, we tried putting a pithos with a broken base over the head of one of our workmen after we had seated him in the position indicated by the bones, and found



that the space was ample. It seems probable that the corpses were trussed in this sitting posture before insertion in the jars, unless, indeed, we are to believe that the Cretans, like the Libyan tribe of which Herodotus writes,<sup>1</sup> did not wait for the actual arrival of death but as their sick were expiring, forced them into a sitting position.

The height of the jars varied from 32 to 94 centimetres. By far the greater part were undecorated, and of those which

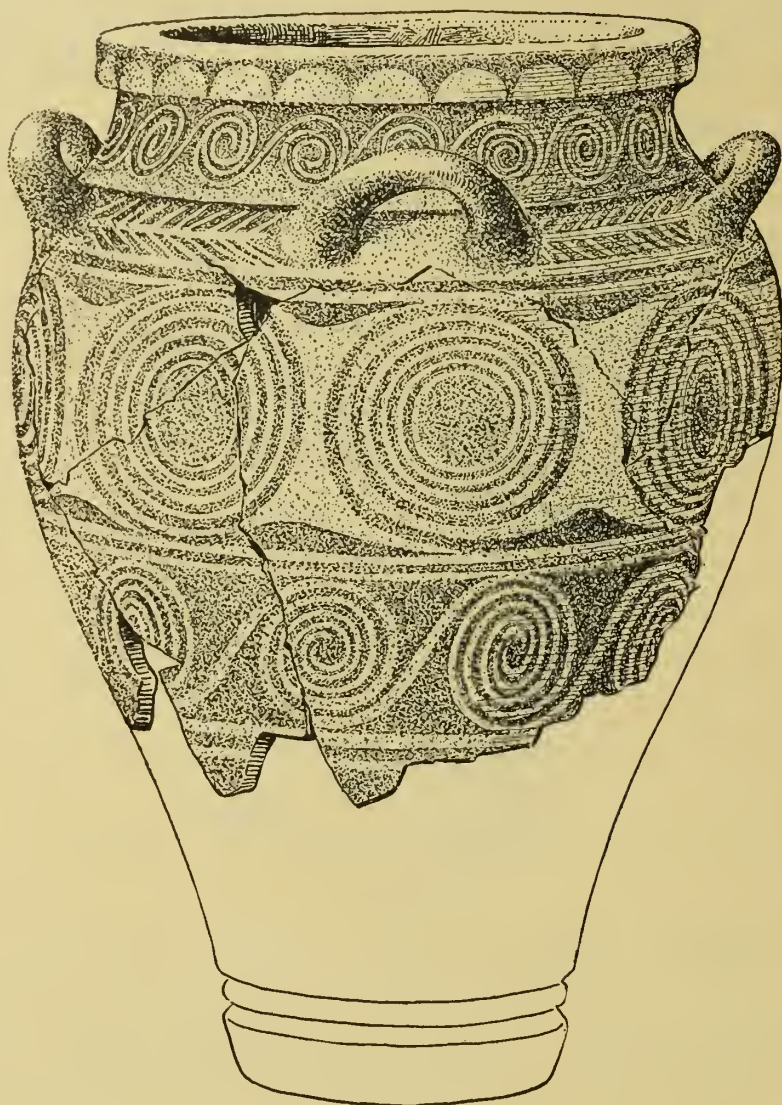


FIG. 34.—Middle Minoan Burial-jar. Scale 1:6.

were ornamented with painted designs, many could boast of nothing more than the drip pattern, a kind of decoration secured by pouring paint over the jar and letting it trickle down its

<sup>1</sup>Herodotus IV, 190.

sides. This type of decoration begins in the Early Minoan II period but is also frequent in the Middle Minoan III and Late Minoan I periods.

There were however enough jars which were ornamented with well known patterns to fix with a fair degree of certainty



FIG. 35.—Middle Minoan III Burial-jar. Scale 1:6.

the date of these pithoi-burials. The earliest specimens, decorated with curving lines and circular patches of dark paint, date from the Middle Minoan I period. Many fragments of such jars came to light. One small specimen was undamaged (Fig. 32) and a large one, though broken, could be put together, which was of importance for establishing the fact that adults as well as children were buried in jars in the Middle Minoan I period.



Four pithoi were painted in the style typical of the Middle Minoan III period, i. e., with designs in powdery white upon a purplish ground. The first (Fig. 33) is a sturdy vessel of unusual type. Its painted ornament is confined to three bands of white about the middle of the vase and four ornaments on the shoulder between the four handles. These ornaments consist of spirals, of leaf-like curls adjoining them, and of barred lobes between the spirals and the curls. This central ornament closely resembles the barred lobes on a jar from Zakro<sup>1</sup> and the design as a whole resembles that in superadded white on a beautiful jar from Pseira.<sup>2</sup>

Such similarities between the ornaments of the Middle Minoan III and the Late Minoan I periods indicate that no great time elapsed between the two. Indeed there is good evidence to suppose that the light on dark technique assigned to the Middle Minoan III period is synchronous with the earlier of the fabrics generally assigned to Late Minoan I potters.<sup>3</sup> A further observation suggested by this painted ornament is that the tendency here evinced by the potter to fill the space between two spreading curves with a flower or bud is one of the most characteristic tendencies not only of later Minoan art,<sup>4</sup> but also of Ionian vase-painting. Messrs. J. H. Hopkinson and John ff. Baker-Penroyne have pointed out the resemblance between such flower and spiral combinations on vases from Phylakopi and on later "Melian" amphorae.<sup>5</sup> The same similarity exists between Middle Minoan III designs and those on "Melian" amphorae, Klazomenai sarcophagi and "Fikellura" ware.

The other Middle Minoan III pithoi are alike in shape except that the foot of one is more slender. They all have grooves below the rim which would have held a rope in place,

<sup>1</sup> *J. H. S.*, 1903, Vol. 23, p. 253, Fig. 18.

<sup>2</sup> *University of Pennsylvania, The Museum, Anthropological Publications*, Vol. III, No. 1, Excavations on the Island of Pseira, Pl. VII.

<sup>3</sup> Cf. R. M. Dawkins in *B. S. A.*

<sup>4</sup> Cf. the Late Minoan III designs in Figs. 64-66 in Hall, *Decorative Art of Crete in the Bronze Age*, p. 43.

<sup>5</sup> See *J. H. S.*, XXII (1902), p. 66.

had occasion arisen of lifting these jars with ropes, and most of them have also projecting rims around the base by which they could be gripped. The decoration of two of these jars is shown in Figs. 34 and 35. Among the decorative motives of the fourth jar, which is not shown, is the foliate pattern which occurs on the



FIG. 36.—Unpainted Burial-jars of Typical Shapes. Scale 1:14.

shoulder of the jar in Fig. 11, p. 30, of the preceding report on *Pseira*. It is a pattern particularly characteristic of the later "Palace Style."

It seems strange that jars with such perishable decoration in fugitive white should have been used for insertion in the ground. Yet we can imagine that these delicate patterns would have shown up well in a funeral procession and that the beauty of the vase would have been a source of pride to a prosperous citizen of Gournia.

The Late Minoan I pithoi which bore painted decorations were two in number. The one with a slender base may be compared to the jars in *Gournia*, Pl. K, and to preceding report on *Pseira*, p. 33, Fig. 14. The decoration of this jar consists



of zone above zone of spirals or wheels interspersed with small rosettes, all painted in the manner typical of the Late Minoan I period (Fig. 37). The decoration of the other jar is a kind



FIG. 37.—Late Minoan I Burial-jar. Scale 1:12.

frequently found on the pottery from Gournia<sup>1</sup> and consists of small circles of dark paint upon a dotted background.

It cannot be said that the men who were buried in these pithoi were richly equipped for their journey to the realms of the dead. It was hoped that the jars might yield many small



FIG. 38.—Vase Found Inside Burial-jar. Scale 1:3.

ornaments comparable in number and beauty to the small objects which were buried with earlier generations at Mochlos, and in this hope every bit of earth from the pithoi was carefully examined, but it was only occasionally that the search was rewarded. From the total number of 150 pithoi found only 15 proved to contain anything else beside the skeleton. Almost no pottery, e. g., was found, the only exception of note

being the vase of Fig. 38. It was quite usual to find deposits of

<sup>1</sup>Cf. *Gournia*, Pl. VII, 40.

pottery adjacent to the pithoi but since the favorite offerings to the dead had been fragile cups, there was nothing left but hopelessly broken fragments. As many as ten baskets of small cup-fragments were recovered. They were mostly of two types, shown in *Gournia*, Pl. VI, 5 and 36, and were decorated with spirals or fern patterns painted in white or more rarely in red on a ground-paint which was sometimes reddish, and sometimes brown or black. These cups, as said above, are equally characteristic of the Middle Minoan III and of the Late Minoan I period. The only other piece of pottery to be recorded was a lid painted with marguerites (Fig. 39). It was found underneath one of the burial jars.

Beads were the objects which most frequently occurred

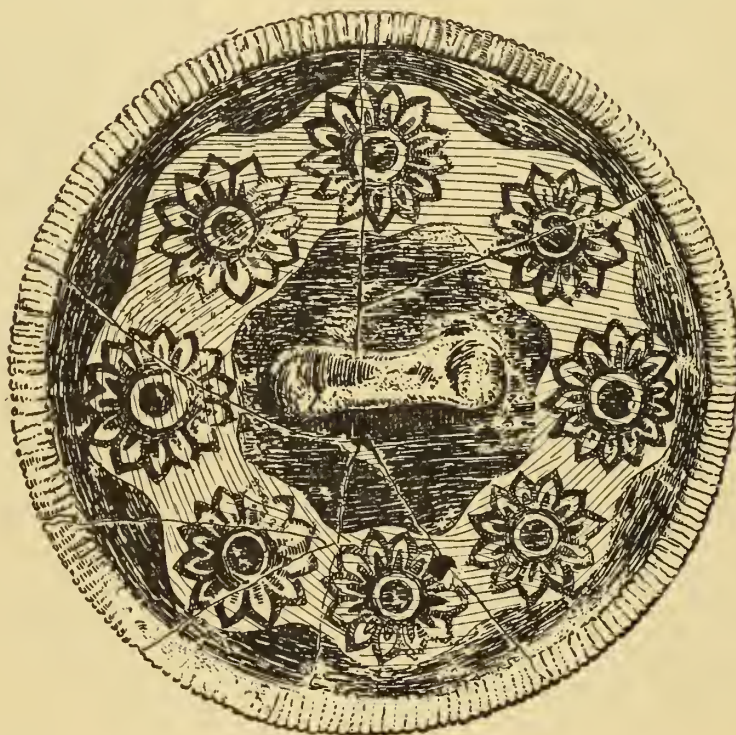


FIG. 39.—Lid Found Beneath Burial-jar. Scale 1:3.

within the pithoi. They were often of clay and of the simplest types. Occasionally they were of bronze, steatite (see Fig. 40, *a*), or of blue porcelain. In one case they were found adhering to the skull.

Bronze objects were not uncommon. The largest was an axe-head in the socket-hole of which a piece of wood still re-



mained (Fig. 41). It must have been a votive or symbolical axe for both the axe-head itself and the wooden handle are too slender for practical use. Perhaps it had prophylactic value; we know that single axe-heads shared the sacred character of the more common type of double axe. The bronze hairpin of Fig. 42 was found in the same pithos as the carnelian seal of Fig. 45, *d*.

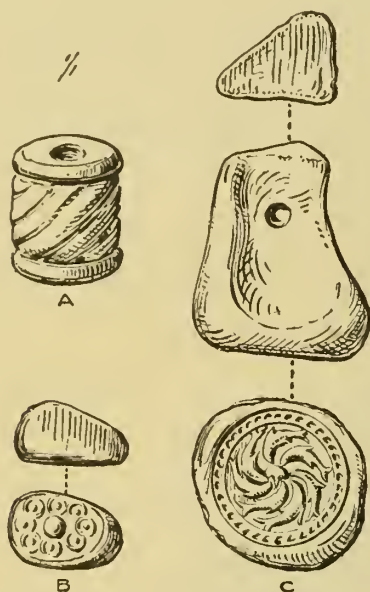


FIG. 40.—Clay Seals and Steatite Beads. Scale 2:3.

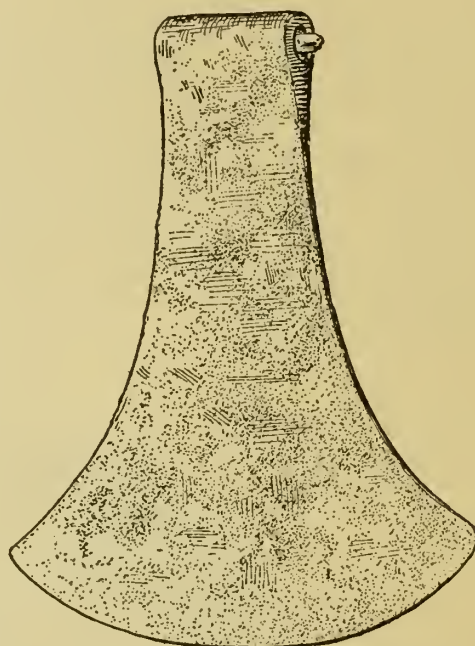


FIG. 41.—Bronze Axe-head Found Inside Burial-jar. Scale 1:2.

That bronze was highly enough prized to be used for jewelry is shown not only by bronze beads but also by three bronze rings. Two of these have plain bronze bezels (Fig. 43, *a*); like the Early Minoan gold ring they are of very small dimensions (diam. 1 cm.) so that they must have been worn either on the little finger of a child's hand or on the last joint of an adult's little



FIG. 42.—Bronze Pin Found Inside Burial-jar. Scale 1:2.

finger; or perhaps they were suspended from a necklace. The third bronze ring (Fig. 43, *b*) had a crystal bezel, which had fallen from its setting and had worked its way several centimetres through the soil. The decoration is very simple and consists of



a barred triangle and lines. This ring furnishes the only instance, so far as I know, of a sealstone set in a ring. In the same jar with the bronze ring appeared a heavy lead ring, the bezel of which is decorated with the figure of a woman (Fig. 44).

The most interesting objects found in the pithoi were sealstones, not because they presented new or rare types, but because, being found in jars that were known to be of the Middle Minoan III or of the Late Minoan I period, their date could be fixed with a fair degree of certainty. Had they not been in this earlier context they would have been probably assigned, on the ground of their conventional types, to the Late Minoan II or to the Late Minoan III period. It now appears, however, that some of the hackneyed types like that of the squid were already in use, were, indeed, conventionalized, and carelessly rendered as early as the Middle Minoan III or at any rate the Late Minoan I period.

These sealstones are as follows:

*a.* Small red carnelian seal with the representation of a door or perhaps the façade of a temple on either side of which is a tree. This seal may be compared with the seal in 'Εφ. 'Αρχ., 1907, πιν. 7, No. 47a (Fig. 45, *g*).

*b.* Large red carnelian seal with design of vase and plants Compare *loc. cit.*, πιν. 7, No. 47, β and γ (Fig. 45, *f*).



FIG. 44.—Lead Ring Found Inside Burial-jar. Scale 2:3.

*c.* Rock crystal lentoid seal with geometric design. (Fig. 45, *h*).

*d.* Amethyst amygdaloid seal with squid ornament (Fig. 45, *c*). For similar representations of a squid compare *loc. cit.*, πιν. 7, Nos. 51 and 81.

*e.* Red carnelian lentoid seal with design in the form of a conventionalized vase (Fig. 45, *d*).

*f.* Red carnelian amygdaloid seal with squid ornament more conventionalized than in *d* (Fig. 45, *e*).

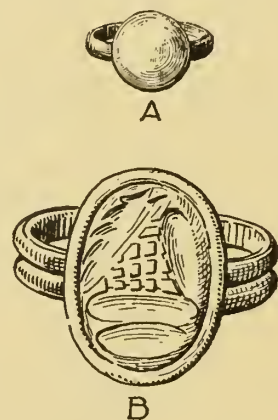


FIG. 43.—Bronze Rings from Burial-jars. Scale 2:3.

g. Small amethyst seal in shape of a flattened cylinder with heart-shaped design, and on the reverse pictographic (?) signs (Fig. 45, *a*).

h. Small amethyst lentoid seal with a fish, sea-urchin, and other marine devices (Fig. 45, *b*). Cf. *loc. cit.*, πιν. 7, No. 94 (Fig. 29, *a*).

There were also found two clay seals; the one lay adjacent to a pithos burial, the other (Fig. 40, *c*), like the Middle Minoan I pottery on the confines of the Early Minoan I deposit A, in a region where the Early Minoan interments and the later pithos burials were confused. Its date therefore is not fixed, but the graceful design of a whorl of fishes certainly seems older than the Late Minoan period.

These sealstones, then, do not help to date their context but on the contrary they all, with the exception of the clay seal

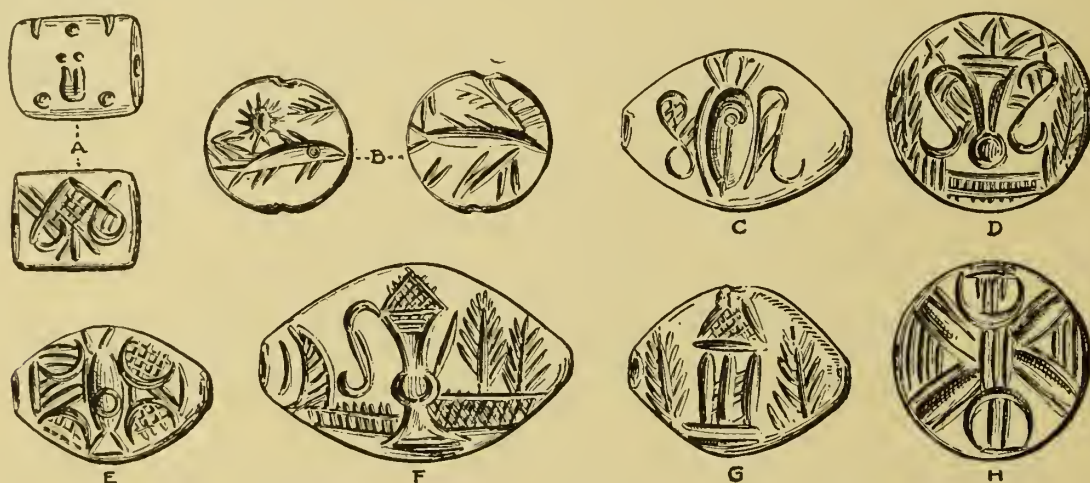


FIG. 45.—Sealstones Found Inside Burial-jars. Scale 1:1.

last mentioned, may be said to be dated by it. The other objects, however, found within the jars and the pottery adjacent to them confirm the evidence which was derived from the patterns on the pithoi themselves and which went to show that these burials belong to the Middle Minoan I, the Middle Minoan III, and the Late Minoan I periods.

Sporadic instances of squat burials in jars have occurred before in Crete. At Knossos a child burial was found in an inverted Middle Minoan III jar and at Pseira child burials were



found in both Middle Minoan I and Middle Minoan III jars. At Vrokastro also, were found this year two child burials in jars—not inverted—adjacent to house walls. Such sporadic cases are of great value in helping to modify the discrepancy between the jar burials of the Sphoungaras cemetery and the widely divergent methods of other Cretan cemeteries, for they indicate that in more than one place and at more than one time was it the custom to bury children in jars. A possible hypothesis is that in no period of Cretan culture was it foreign to Minoan custom to bury the children in jars, but that in the three periods specified the practice was extended to adults as well as to children. Another possible hypothesis is that the poor only buried the dead in jars. This is the custom in some districts of China today; the poorer people for the purpose of economizing space, squeeze the bodies of their dead into jars. The citizens of Gournia, however, seem too prosperous to warrant such an explanation. In spite of the fact that a certain amount of conservatism would be expected in regard to burying the dead, the truth seems to be that the Cretans of the Bronze Age experimented a good deal in this matter. The following table (p. 73) shows the different kind of burials found up to date in Crete; in some cases the cemeteries are on steep hillsides like Sphoungaras where tunnels were driven almost horizontally into the hill, in other cases, like the long narrow burial rooms of Palaikastro they are on nearly level ground.

The occasional appearance of this crude method of burial side by side with other more civilized practices is not an isolated phenomenon. In Egypt the custom of “interment under pots appears in upper Egypt at the close of the predynastic period and is uniformly continuous through the early dynasties to the advent of the Fourth. It is associated with other early modes of burial. As a practice it is not common but constant; nor is it demonstrably representative of poorer or richer people or of a differing element of race.”<sup>1</sup>

<sup>1</sup> Garstang, *Tombs of the Third Egyptian Dynasty at Reqâqnah and Bêt Khallâf*, 1904, pp. 50-57.



A similar phenomenon moreover existed in all probability in Greek lands. At five sites—Thorikos, Aphidna, Aigina, Tiryns, and Arkesine on Amorgos—jar burials have been found which in the opinion of their excavators date from the “premycenaean” period.<sup>1</sup>

In the absence of full publications of the pottery found with these burials, their date remains somewhat uncertain but it seems probable that during the early bronze age, jars instead of graves were occasionally used for burying the dead, at more than one place on the Greek mainland.

All these graves were thought by M. Stais and by Dümmler<sup>2</sup> to be the graves of a people who were quite distinct, racially, from the later Mycenaean; they were called variously Carians, Lycians and Pelasgians. M. Tsountas alone maintained the opinion that a difference in burial did not necessarily imply a difference in race. In its bearing on this question, the evidence from Sphoungaras is apparently decisive, for it shows that the highly developed Minoan civilization as well as the older and more primitive societies of the mainland sometimes buried their dead in jars. This cemetery, moreover, serves to connect such earlier sporadic instances of burials under jars with the later practices of the geometric period.

<sup>1</sup> For this list of pithos-burials I am indebted to Zehetmaier, *Leichenverbrennung und Leichenverstellung im alten Hellas*, p. 43. For the few particulars which are given about these burials see for those at Thorikos: 'Εφ. 'Αρχ., 1895, p. 228 f; for those at Aigina where no pithoi were recovered but only the circular pits in which they had stood, id., p. 248; for those at Aphidna, *Athen. Mitt.*, 1896, p. 385 ff; for those at Tiryns and Arkesine on Amorgos, 'Εφ. Αρχ., 1898, p. 210.

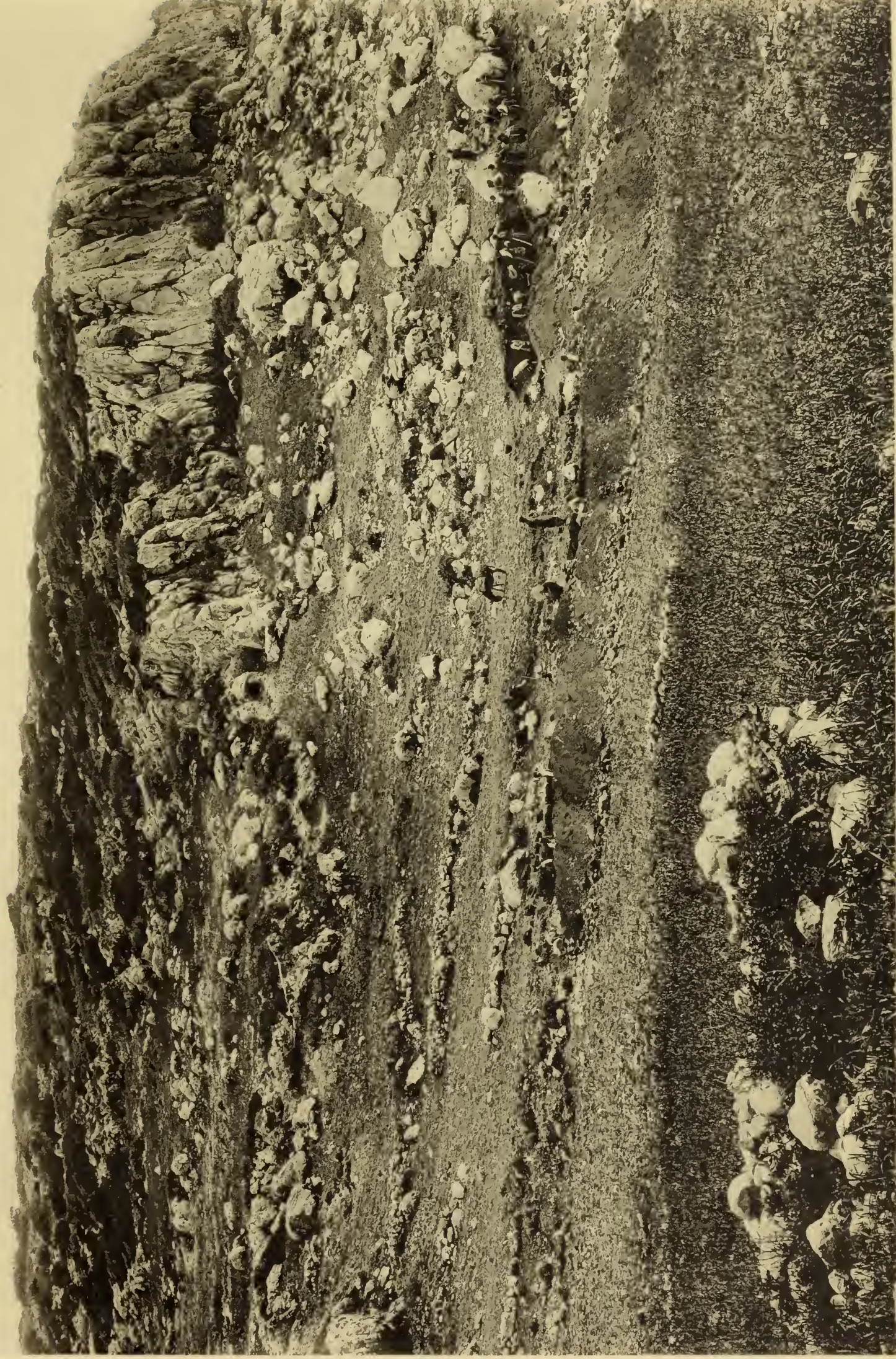
<sup>2</sup> Cf. also Perrot and Chipiez, *Histoire de l'art*, II, p. 373.

Early Minoan I.	No graves found.		
Early Minoan II.	Rock shelters,	Zakro, Hagios Nikolaos, Hagia Photia, Sphoungaras, Mochlos,	<i>B. S. A.</i> , VII, p. 143. <i>B. S. A.</i> , IX, p. 340. <i>Gournia</i> , p. 56. <i>Ibid.</i>
	Cist graves,	Sphoungaras,	On evidence of loose stones. Unpublished.
	Rectangular chamber tombs (roofed).	Pseira, Mochlos,	<i>Explorations in the Island of Mochlos</i> , p. 13.
	Circular chamber tombs (unroofed?),	Mochlos,	
	Larnakes,	The Messara Hagia Triada, Koumasa, Sphoungaras,	Mem. R. Ist. Lomb., XXI, 1905. Unpublished. On evidence of fragments.
Early Minoan III.	All the types of graves found in the Early Minoan II period occur here also.		
Middle Minoan I.	Rock shelters,	Hagia Photia,	<i>Gournia</i> , p. 56.
	Cist graves (reused),	Pseira,	Unpublished.
	Narrow burial chambers,	Palaikastro, Gournia, Vasiliki, <sup>1</sup>	<i>B. S. A.</i> , VIII, p. 291. <i>Gournia</i> , p. 56. <i>Trans.</i> , Vol. II, Part II, p. 115.
	Circular chamber tombs (unroofed?).	The Messara,	Unpublished.
	Larnakes,	Sphoungaras,	On the evidence of fragments.
Middle Minoan II.	Burial jars,	Pseira, Sphoungaras,	Unpublished.
	No graves found.		
Middle Minoan III.	Cist graves (reused), Burial jars,	Pseira, Sphoungaras. Mochlos,	Unpublished. <i>Explorations in the Island of Mochlos</i> , p. 14.
Late Minoan I.	Burial jars,	Sphoungaras. Mochlos,	Unpublished.
Late Minoan II.	Rectangular chamber tombs of squared blocks, and roofed,	Isopata,	<i>Prehistoric Tombs of Knossos</i> , pp. 136 and 1-21.
	Pit graves, }	Zafer Papoura,	Id., pp. 1-21.
	Shaft graves, }		Id., pp. 1-21.
Late Minoan III.	Larnakes,	Gournia,	<i>Gournia</i> , pp. 45 and 46.
	Beehive tombs,	Hagios Theodoros,	<i>Transactions</i> , II, Part II, 1907, p. 131.
		Anoia Messaritica and Milatos,	<i>Mon. Ant.</i> , 1889, p. 201.
		Palaiokastro,	<i>B. S. A.</i> , VIII, p. 303.
		Episkopi,	Unpublished.
Late Minoan III.		Erganos, Panagia and Courtes,	<i>A. J. A.</i> , 1901, Vol. XI, p. 259 ff.
	Pit graves,	Zafer Papoura,	<i>Loc. cit.</i> , pp. 1-21.
	Shaft graves,		
	Rectangular chamber-tombs.		

<sup>1</sup> Here the burial chambers contained larnakes.







THE HILL, SPHOUNGARAS, WHERE THE CEMETERY OF GOURNIA WAS DISCOVERED







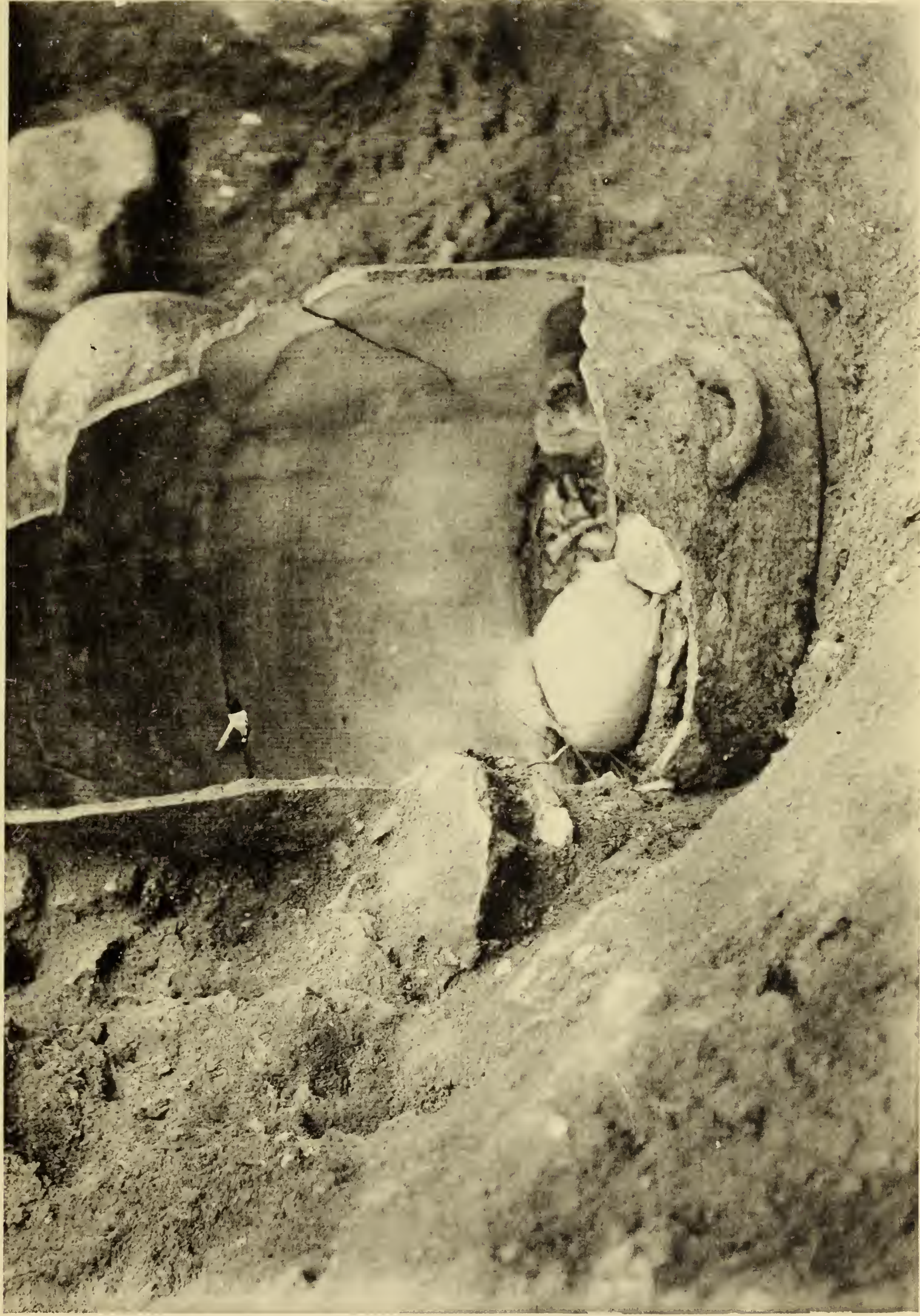


BURIAL-JARS IN SITU.









A BROKEN BURIAL - JAR WITH SKELETON INSIDE



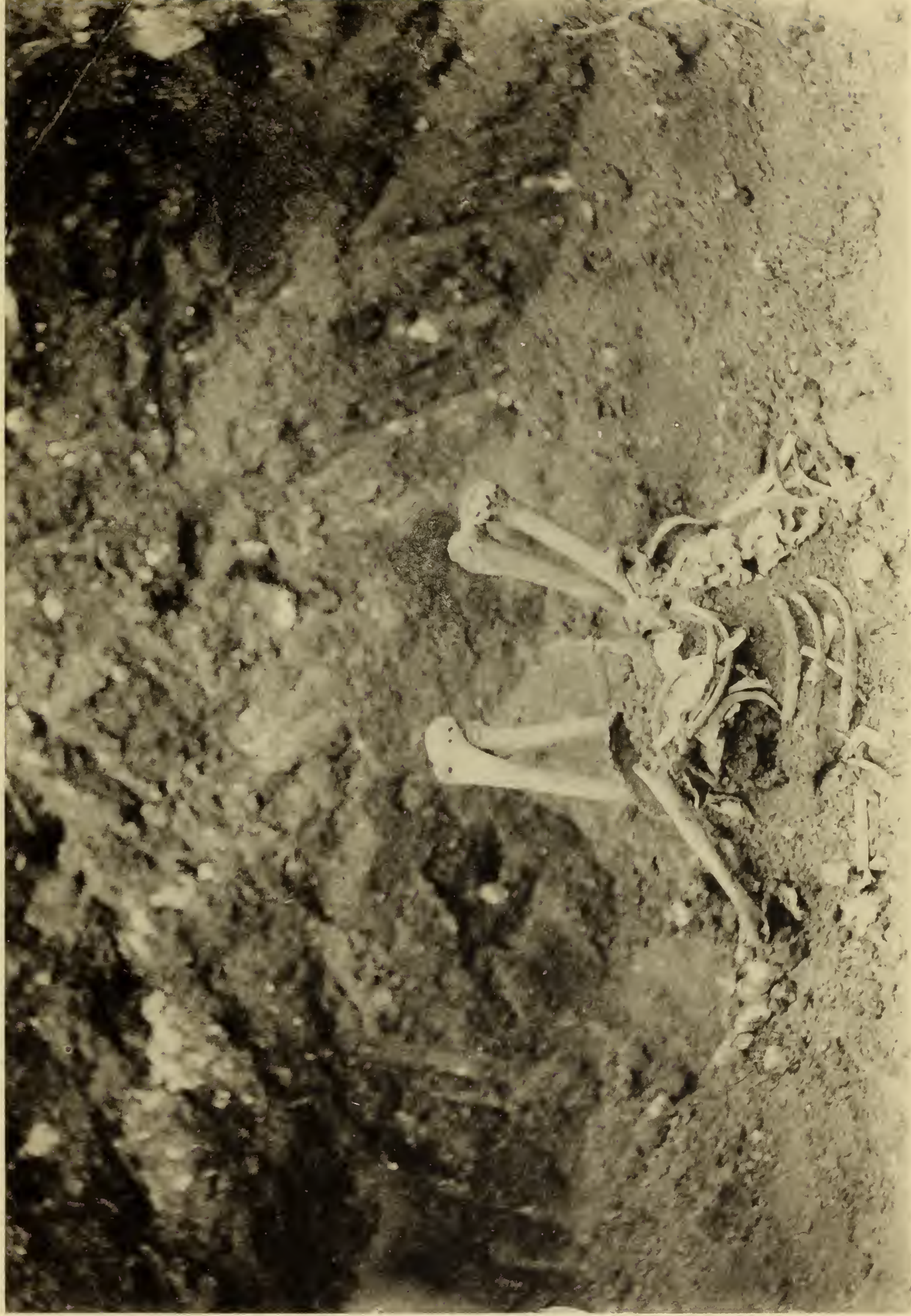




SKELETON AS IT APPEARED AFTER REMOVAL OF BURIAL - JAR



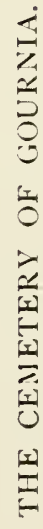




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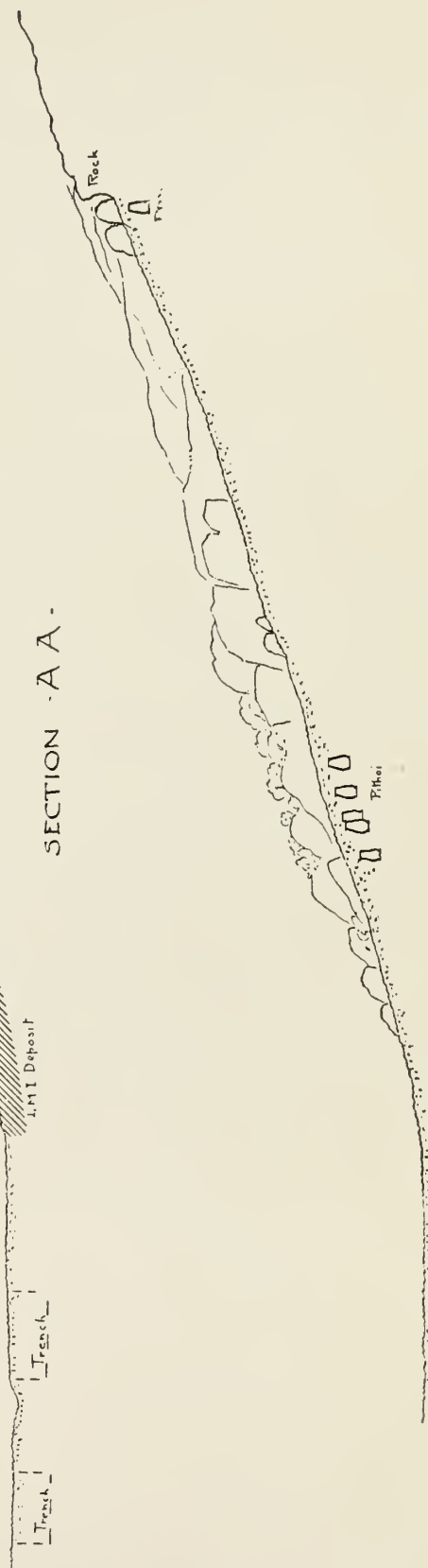








SCALE 10 5 0 10 20 METRES



SECTION -A A-

-SECTION -B B-



















